

Chapter 6: Implementation Considerations

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1. Recommendation Framework

This chapter describes the strategic context that needs to be factored into the technology pilots selection process (recommendation framework). That context must also be referenced when developing the project plans to make sure that projects, whether trial or full-scale deployments, are designed to accomplish the intended capabilities and outcomes that contribute towards the realization of the overall strategic goals and objectives.

The strategic planning process used by the Government of Alberta demands that all Ministries, departments and organizational units develop strategies and pursue initiatives that are aligned with and support the realization of the Government's strategic goals and objectives.

The following sub-sections highlight the relevant strategies and goals for the future of healthcare in Alberta, as expressed by the Government of Alberta, Alberta Health and Wellness, Alberta Health Services and Continuing Care. Section 2 presents a framework and suggested evaluation criteria that the Working Committee may use to guide their selection process for deciding which technologies to take to the trial stage. And section 3 recommends a project development and management approach, as well as supporting tool sets based on the Results Chain methodology, which will aid management ensure that the selected pilots and/or larger-scale deployments are focused on delivering results.

1.1 Strategic Drivers: Goals and Objectives

1.1.1 Vision 2020

The demand for and the cost of delivering health care continues to rise. The Government of Alberta has recognized that the challenges to providing **accessible**, high **quality care** for Albertans in a **sustainable** manner will increase dramatically. According to the *Vision 2020* document¹, the Government has recognized that, in the absence of change, a new 300-bed hospital will have to be built in the province every two years to meet the growing demands and population growth, and Alberta will face a shortfall of many health-care providers.

Vision 2020 was developed following a provincial health services optimization review that was conducted to assess Alberta's health needs and find opportunities to improve health service organization and delivery for the next 10-15 years.

There are five goals in *Vision 2020*:

1. Providing the right service, in the right place, and at the right time
2. Enhancing access to high quality services in rural areas
3. Matching workforce supply to demand for services
4. Improving co-ordination of care and delivery of care; and
5. Building a strong foundation for public health

1.1.2 Health and Wellness Business Plan 2009-12

The Ministry of Health and Wellness' business plan sets out the strategic direction, proposed changes, enhancements and activities for the Ministry. The business plan guides department operational plans and serves as a framework for the development of plans by Alberta Health Services and the Health Quality Council in Alberta.

The Health and Wellness business plan links to the Government of Alberta Business Plan, and the Ministry will take a lead role in achieving the Government's priority to **increase access to quality health care and improve the efficiency and effectiveness of health care service delivery.**

The Ministry recognizes significant opportunities and challenges in a number of areas. The area of "Efficiency, Technology and Innovation" is particularly relevant for Continuing Care in that the Ministry has recognized the need to develop new and innovative models of care. Health systems access can be improved by increasing continuing care services, including long-term care, home care and a range of community and supportive living options. Technology advances will need to be leveraged to improve access and quality of care.

The Ministry's strategic priorities for the 2009-2012 timeframe, as related to Continuing Care, are outlined in the following directive statements:²

- ❖ Implement Vision 2020 to optimize health service delivery by **increasing efficiency, improved access and guiding capital planning**
- ❖ Within the Continuing Care Strategy, improve the quality of care for Albertans by **offering more alternatives** for long-term care
- ❖ Increased access through effective service delivery – specifically implement the Continuing Care Strategy including alternative financing approaches that will provide Albertans more options and choices to receive health service to "age in place"

With the publication of *Vision 2020* in December 2008, a joint implementation plan between Alberta Health and Wellness, and Alberta Health Services was developed complete with timelines and targets in order to put the report into action.

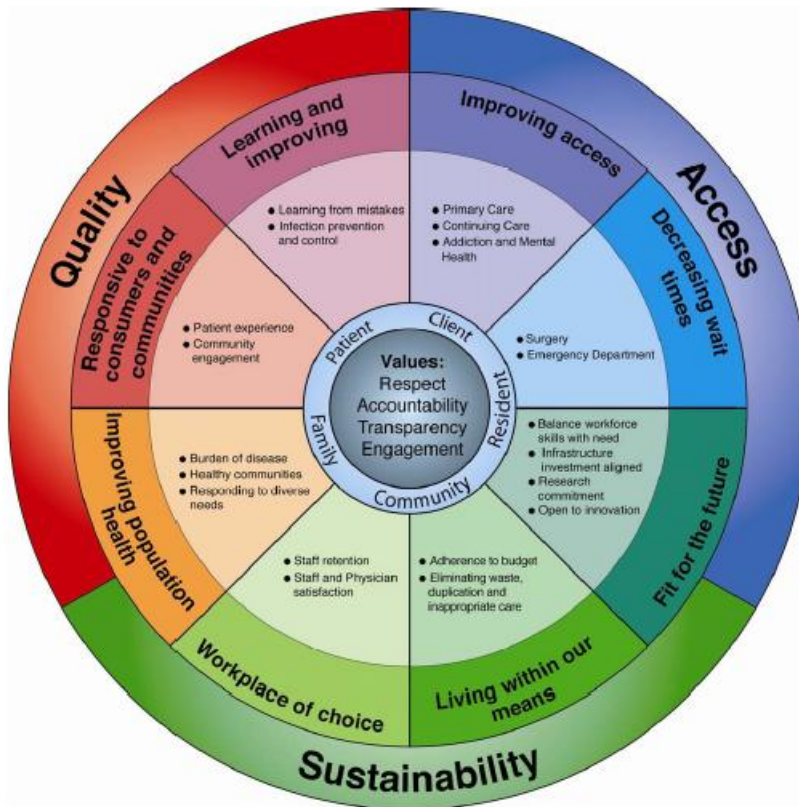
1.1.3 AHS Strategic Goals and Objectives

Alberta Health Services (AHS) provides health services delivery in response to direction from the Ministry. The *Alberta Health Services Strategic Direction 2009-2012: Defining Our Focus / Measuring Our Progress* provides the foundation for all activity within Alberta Health Services.³

The plan describes AHS' values, goals, focus and key priorities in serving a population base of approximately 3.5 million. The priorities address goals established by the Government of Alberta and are aligned with *Vision 2020*.

The AHS plan includes 3 goals, 8 areas of focus and 20 strategic priorities. These define the focus of AHS over the next three years and outline the measures of success.

The following "Strategy Wheel" diagram illustrates some of the key elements of the plan:

Figure 1: AHS Strategy Wheel⁴

AHS has identified three (3) key strategic goals:

- ❖ **Quality:** health care services are safe, effective and patient-focused
- ❖ **Access:** appropriate health care services are available
- ❖ **Sustainability:** health care services are produced within available resources both now and into the future

These goals are enabled by eight (8) areas of focus. Within Alberta Health Services Portfolios, at all levels of service delivery, Operational Units are expected to develop strategies and performance indicators/targets that support the applicable areas. The Continuing Care Health Technology Roadmap recommendations must align with AHS focus areas and support the achievement of the strategic goals. This requirement becomes a critical selection criterion for the Roadmap's technology deployment recommendations.

1.1.4 Continuing Care Strategy – Aging in the Right Place

Alberta Health and Wellness released their *Continuing Care Strategy - Aging in the Right Place* in December of 2008⁵. This new strategy reflects an approach toward

planning and providing continuing care services to the frail elderly and disabled individuals based on the underlying belief that whenever possible individuals should be supported to receive services in their own home and community. Many new home care and supportive living services and innovative new health practices are being developed as alternatives to admission to long-term care.

The new strategy is intended to **provide new ways for delivering health and personal care services**, and offering more choices to Albertans in their homes and communities.⁶

The strategy document recognizes that a new model for continuing care is required - one that will give people the choice to age where they want, with the resources they need to live safely where they choose. The new model will mean long-term care beds are available by accommodating the changing health needs of Albertans.

Home care services, a variety of supportive living or assisted living options, and freedom to make health and personal care choices are all important parts of the strategy to meet the desires and needs of aging Albertans - giving them more opportunities to age on their own terms, and in the right places.

Many more home-care services, support programs and innovative new health practices are being developed to **provide viable alternatives to facility-based care and, in some cases, allowing people who live in nursing homes the choice to return home.**⁷

The Continuing Care Strategy is aligned with AHS' strategic direction and goals, and supports the plan through the following five strategies, each with a number of supporting initiatives:

Strategy 1: Investing in Community Supports

Strategy 2: Build Infrastructure that meets "Aging in the Right Places" vision

Strategy 3: Change the way long-term care accommodations are paid

Strategy 4: Funding individuals based on needs and/or funding providers

Strategy 5: Providing equitable drug coverage for people where they live

One of the initiatives (Initiative #7 – Dedicated Health Technology Funding) under Strategy 1 identified for immediate implementation is the development of a Health Technology Roadmap and the desire to launch a number of health technology pilots during 2009. Successful pilots will lead to Province-wide expansion of selected continuing care technologies during the 2010-2012 timeframe.⁸

It is believed that proven and innovative technologies could allow seniors and those with disabilities more freedom and independence. The technologies aren't limited to medical needs, they can play a big role in safety, social and informational needs, may provide a substitute for professional healthcare resources, and better link caregivers to clients to allow them to participate more effectively in the care giving process.

1.2 Strategic Alignment

To summarize, the above strategic objectives and goals clearly establish the following directional statements that the Continuing Care Health Technologies pilot recommendations must be aligned with and supportive of:

- ❖ The Government of Alberta, through *Vision 2020*, has established providing **accessible**, high **quality care** for Albertans in a **sustainable** manner as it's strategic goals. Additionally, the Government has emphasized the *need* to enhance access to high quality services in **rural areas**, and the need to provide more health care in **community settings** – including more care options for seniors.
- ❖ The Ministry of Health and Wellness recognizes the need to develop new and innovative models of care. Health systems access can be improved by **increasing continuing care services**, including long-term care, home care and a range of community and supportive living options. Technology and innovation is particularly relevant and advances will need to be leveraged to improve access and quality of care.
- ❖ Alberta Health Services strategic plan is aligned with the Government's three strategic goals of **access**, **quality**, and **sustainability**. As the delivery arm, AHS intends to enable these through 8 areas of focus. Continuing Care, along with all other Operational Units are expected to develop strategies and performance indicators that support the applicable focus areas.
- ❖ Continuing Care's new strategy is based on the underlying belief that whenever possible individuals should be supported to receive services in their own home and community. The new strategy is intended to provide new ways for delivering health and personal care services, and offering **more choices** to Albertans in their homes and communities - giving them more opportunities to age on their own terms, and in the right places.

The development of a Roadmap and the desire to launch a number of technology pilot projects during 2009 for Province-wide expansion of selected Telecare technologies during the 2010-2012 timeframe is one of the key enabling initiatives. It is believed that proven and innovative technologies could allow seniors and those with disabilities more freedom and independence. The technologies aren't limited to medical needs; they can play a big role in safety, social and informational needs.

These objectives can be viewed as the desired outcomes from planned initiatives, technology and process changes. They must be clearly articulated in any change program and be reflected in the Results Chain model.

Critical Success Factor 6-1: The pilot selection process and implementation projects (pilots or full-scale deployments) must be aligned with and demonstrably contribute towards the realization of the strategic goals and objectives.

2. Opportunity Portfolio – Selection Criteria

The Technology Roadmap in Chapter 4 has identified many currently available Telecare technologies that are implicitly candidates for use. Chapter 4 further identifies a number of processes to “package” technologies that address specific needs, and chapter 5 presented a number of technology recommendations based on these processes. One additional step is required, and that is to actually select and decide which technology solutions to trial. While InnoTraction has presented recommendations, the actual decision which ones to trial is the responsibility of the Working Committee members. To aid in this process InnoTraction has developed a decision-making framework for the Committee members as a useful tool to help evaluate and select among the alternatives. Use of this framework enables objectivity, transparency, and an auditable documented trail. The process lends itself well to involving the key stakeholders to ensure maximum alignment and support for the decisions made.

2.1 Selection Criteria

The evaluation tool applies selection criteria that is aligned with and supportive of the strategic goals and objectives of key stakeholders (AET, AHW, AHS) and is driven by client-needs. The bias will be towards those technology solutions that demonstrate a high-readiness and high-applicability while progressively balancing readiness/applicability risk versus potential over the longer-term Technology Roadmap outlook.

The first priority is for the technology to have a positive impact on the patients and on the delivery/provisioning process of continuing care in Alberta. Economic development is a goal of AET, but it is not a driving goal for this Roadmap. If there are economic opportunities because of this Roadmap it is a by-product of the project.

The selection criteria are derived from Opportunity / Business Case evaluation criteria typically used in business but adapted to the Continuing Care environment. Since the scope of this Technology Roadmap project does not go beyond recommending a set of health technology opportunities for the project sponsors to consider taking to the pilot stage, the criteria was not applied at the depth of analysis as a formal business case. Such detailed analysis, including detailed ROI calculations, is a logical next step following a pilot that, among other things, would be designed to demonstrate economic benefits and positive effects on clients and caregivers.

The selection criteria below are presented as a framework and guide for the Working Committee to consider and modify to fit their context and priorities. Modification may include assigning a numeric value and weights to the individual questions (or categories) to allow for a clearer discrimination between alternatives. The Working Committee members need to own the process and the criteria. The recommendations made should demonstrate due diligence and be supported by the appropriate documentation to ensure full transparency.

The outcome of this process needs to result in the selection of a strategically aligned, technology-ready and practical technology pilot recommendation from the Working Committee to the Steering Committee. With the approval to proceed, it is recommended that the Working Committee initiate a formal business case prior to

moving to the pilot stage to field test a number of promising market-ready technologies. Pilots are intended to test the assumptions and do further evaluations of the technology fit, total cost of ownership under a full-scale deployment, and the benefit streams that will likely accrue to the organization and clients.

We have identified seven (7) assessment categories, each with a number of subordinate questions, for the stakeholder group to consider using as selection criteria. This is a preliminary list intended for discussion with the expectation that the Working Committee will modify this in order to settle on a list of selection criteria that is best aligned with their organizational context, needs and priorities:

1. Strategic alignment
2. Continuing Care area of contribution and impact
3. Technology Readiness
4. Organizational Impact
5. Financial / ROI
6. Client /Caregiver Impact
7. Other

The initial assessment may be undertaken at a high-level wherein each opportunity is assessed and scored based on its considered “impact” rating (positive, neutral, negative). If this schema does not provide sufficient discrimination between options, then a more sophisticated scale with numeric values (i.e., 1-5) and category weighting may be considered.

The following table presents the evaluation matrix of the candidate opportunities.

Criteria	Opportunity						Comments
	#1	#2	#3	#4	#5	#6	
Strategic Alignment							
▪ Initiative directly contributes towards achieving one or more strategic goals							Access, Sustainability, Quality service
Area of contribution and impact (from CC strategy)							
▪ Address a priority issue/need							Impact
▪ Provides seniors with choice – supports aging in the home							Substitutes professional health care providers/facility-based care with technology
▪ Suitable for Rural deployment							Support rural geographic locations
▪ Reduces reliance on profession health care resources							Improves access to and effectiveness of family/community caregivers
▪ Supports caregivers (family/neighbours) in providing care							Connectedness, alerts, information needs, accessibility, coordination of care with health care system
Technology Readiness							
▪ Proven technology and application							Market ready (TRL 5,6)
▪ Technology enablers and infrastructure readily available							Technology fit – provincially and within AHS systems and processes
▪ Technology must be scalable							Province-wide deployment capability
▪ Multiple source supplies							Choice
▪ Local installation/support services							Local service/support availability

Criteria	Opportunity						Comments
	#1	#2	#3	#4	#5	#6	
Organizational Impact							
▪ Does it meet/promote best practice							Clinical acceptability / risk management
▪ AHS technology impact							Technology fit/no current disruptive impact
▪ Organizational change impact							Processes, policies, governance change impact manageability
ROI – Cost/Benefits							
▪ AHS Capital expenditure requirement							Low requirement
▪ AHS Operational expenditure requirement							Low requirement
▪ Benefit/Cost ratio							Direct/Indirect Benefits (qualitative/quantitative) outweigh costs
▪ Feasible business model (user pays)							Affordability
Client /Caregiver Impact							
▪ Does it increase client safety & security							Allows for aging in the home
▪ Increase client independence							Delays admission to Facility Living
▪ Ease of use							Senior-proof / ergonomics
▪ Decreased reliance on Healthcare system							Self-management/community support
Other							
▪ Political sensitivities							Optics
▪ Provincial economic benefit/impact							Local vendors/service providers/research orgs

3. Results Chain / Benefits Realization Methodology

3.1 Results Chain

InnoTraction has constructed a conceptual Results Chain that is representative of a change program deploying some of the recommended technologies. The Results Chain or Outcomes Model graphically illustrates the scope of the change program and how it will contribute to the achievement of Continuing Care’s strategic goals and objectives.

The model depicts the various initiatives required to deploy the proposed technologies in order to create the desired capabilities or changes necessary to realize the desired benefits or outcomes. Program level risks and assumptions may also be identified. The methodology, as described in *The Information Paradox: Realizing the Business Benefits of Information Technology*⁹ – authored by John Thorp & DMR’s Center for Strategic Leadership (1998), is now widely applied in the consulting community and has been used in both the public and private sectors in Alberta.

The Results Chain can be described as a “causal-relationship logic network” that relates projects (initiatives) to desired outcomes. It is not a process model or time-based critical path network.

The main components of a Results Chain model are represented in Figure 2 and in Table 1 below:

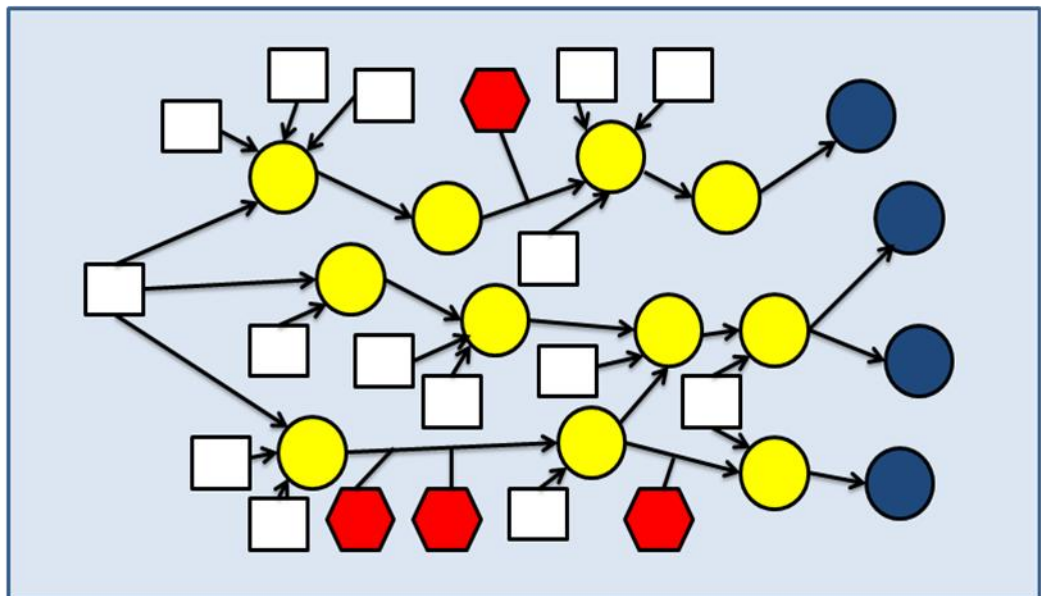


Figure 2: Conceptual Results Chain





	Projects/Initiatives: represent a concrete action or set of actions in a defined program. These actions or change initiatives are typically projects with a plan, accountability and timeframe. Project/ initiatives are necessary action(s) to bring about a targeted outcome.
	Outcomes: Are the effects of change initiatives. They represent either capabilities created or benefits/outcomes that are value measures and, as such, must be quantifiable and measurable, have a defined metric, and must have an owner.
	Assumptions: Are statements about dependencies on others to deliver something, risks, unknowns or other limitations that need visibility. Typically assumptions are identified as part of a risk mitigation exercise.
	Contribution Element: indicates the role or part of a component in the realization of another (causal relationship). The Contribution element is represented by a connecting arrow.

Table 1 Results Chain Components

A full-fledged Benefits Realization project including the creation of a Results Chain is a highly focused, iterative undertaking requiring stakeholder involvement. This is not within scope of the Roadmap initiative. But as part of the deliverables we intend to provide a high-level representative model that we believe will provide significant value as a communications, project planning and project management tool. The Results Chain will:

- ❖ Illustrate, at a high-level, the scope and ownership of the change program including required initiatives, assumptions/risks and outcomes
- ❖ Provide the basis for the development of an implementation plan, risk management plan, communications/change management plan, and a benefits/outcomes realization plan; and
- ❖ Provide a management framework for monitoring the implementation of the overall change program and making the necessary course corrections as required

Alberta Health and Wellness has established a Benefits Realization office within the IT portfolio. According to the October 2009 Report of the Auditor General of Alberta,¹⁰

“The Department has made progress developing key benefits evaluation components. For example, a Benefits Logic Model (Results Chain) explicitly shows linkages between projects and outcomes and models them in a rigorous manner. The Department also has a guide and template for providers to measure and evaluate benefits associated with a project/initiative.”

These statements are supportive of the approach InnoTraction is recommending; using the Results Chain methodology for both Pilot projects and any subsequent Province-wide, full-scale implementations.

3.2 Continuing Care Project Representative Results Chain

Typically, a Result Chain accompanies a project initiative that has a business case and is approved by the key stakeholders. The business case clearly articulates user needs/requirements, the proposed solution set, change requirements and expected outcomes. Successive draft versions of the Results Chain are developed and reviewed with the stakeholder group during the business case development exercise to assist in defining the required change program (all the things that need to be done in order to generate the desired outcomes). This is an iterative process requiring the involvement of key stakeholders during the plan development stage and successive review and modification efforts.

The Roadmap has identified an opportunity portfolio for the CCTI Working Group, and made technology recommendations (as outlined in chapter 5). But defining the detailed change program required both for Pilot projects or full-scale deployments is not within scope. Therefore the Results Chain developed as part of the Roadmap deliverable will necessarily be a generic Results Chain depicting a representative Continuing Care technology deployment initiative. While representative, this model will nevertheless identify:

- ❖ A likely set of key initiatives that need to be undertaken that are representative of Telecare technology deployments in the healthcare industry
- ❖ The capabilities (or changes) these initiatives create that can be leveraged to generate the expected outcomes
- ❖ Anticipated risks and assumptions that need to be addressed (barriers and critical success factors), and
- ❖ Expected benefits areas (outcomes) showing a clear linkage between the initiatives required to produce the expected outcomes and their contribution towards the realization of higher-level goals and objectives

The representative Results Chain is based on a Personal Emergency Response System (PERS) and Wander Management technologies as outlined in section 2.1 of chapter 5. While loosely based on this pilot option, the Results Chain depicted below can serve as a template and framework as well as aid in subsequently constructing a more detailed Results Chain for this and each of the specific technology recommendations the project sponsors decide to implement.

The following describes the key components depicted in the representative Results Chain:

- ❖ Initiatives: a representative set of initiatives (actions) required to effect change
- ❖ Capabilities: the change effects/capabilities created
- ❖ Outcomes: quantifiable and measurable benefits

- ❖ Assumptions: risks/dependencies that need to be managed, and
- ❖ Accountabilities: for outcomes and risks

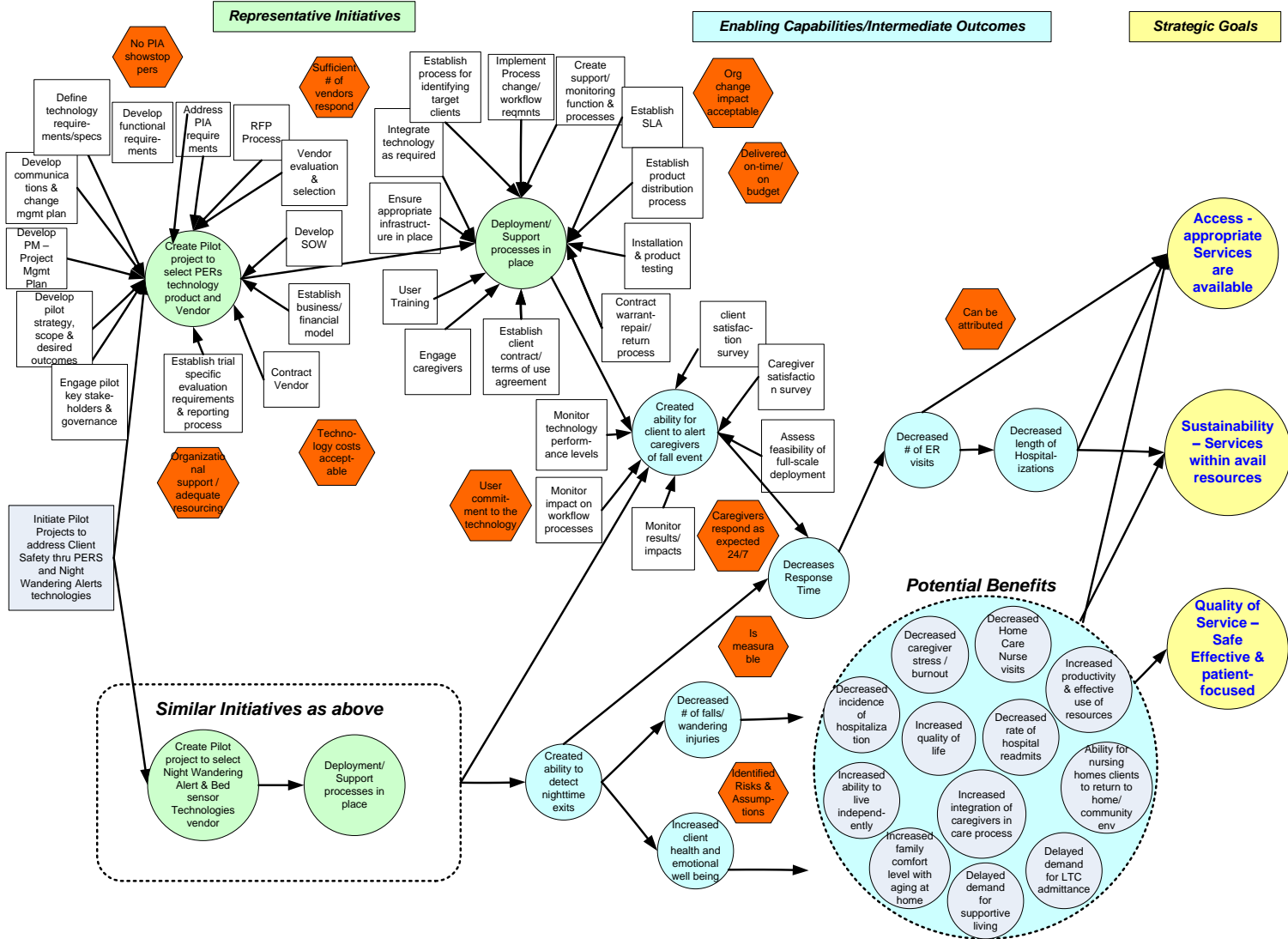


Figure 3: Representative Results Chain

3.2.1 Results Chain Components - Initiatives

Undertaking a technology deployment initiative, whether as a Pilot project or an enterprise-wide implementation, requires a set of concrete actions. These actions or change initiatives are typically linked projects (subprojects) within an overall change program, each with a formal project plan clearly identifying deliverables, timelines, resource assignments and accountabilities. These initiatives are represented by a square (see Section 3.1 above) and contain a descriptive label identifying the initiative. Initiatives can be thought of as necessary actions required to create a certain capability or bringing about the desired outcomes.

The initiatives required to move from the current state to the desired state are usually defined in a workshop setting with key stakeholders who can speak to the gap and define the required change steps.

For illustrative purposes, we have provided on the Results Chain above a representative set of initiatives for a Pilot deployment based on the technology recommendation described in section 2.1 of chapter 5. The set of initiatives likely includes some or all of the following in order to establish a pilot project to select the technology product and vendor:

- ❖ Engage pilot key stakeholders & establish governance process
- ❖ Develop pilot strategy , scope and desired outcomes
- ❖ Develop PM – Project Management Plan
- ❖ Develop communications and change management plan
- ❖ Define technology requirements/specs
- ❖ Develop functional requirements
- ❖ Address Privacy Impact Assessment requirements
- ❖ Develop RFP, define process requirements and deploy
- ❖ Undertake vendor evaluation and selection process
- ❖ Develop statement of work (SOW)
- ❖ Establish business / financial model
- ❖ Contract Vendor
- ❖ Establish trial specific evaluation requirements, monitoring and reporting process

The above would result in the selection of a vendor. Once contracted, the process of deploying the product and establishing the required support processes may require some of the following representative actions:

- ❖ Ensure appropriate infrastructure is in place
- ❖ Integrate technology as required

- ❖ Establish process for identifying target clients
- ❖ Design and implement process change/workflow requirement
- ❖ Create support/monitoring function and processes
- ❖ Establish SLA
- ❖ Establish product distribution process
- ❖ Installation and product testing process
- ❖ Contract warranty and return/repair process
- ❖ Establish client contract/terms of use agreement
- ❖ Engage caregivers
- ❖ User Training

3.2.2 Results Chain Components – Capabilities Created

With product deployment, training and support processes in place as a result of the above initiatives, two capabilities have been created:

- ❖ The ability for clients to alert caregivers (thru PERS and a monitoring centre) of a fall event, and
- ❖ The ability for caregivers (thru sensors and likely a monitoring centre) to detect nighttime exits and/or possible falls

These technology enabled capabilities directly contribute to a number of intermediary expected outcomes/benefits as a result of the client either activating the emergency button to notify the monitoring centre, or the monitoring centre being notified through the door sensors activation and/or bed sensors indicating that the client had left the bed and not returned within a specified time period. The monitoring centre would attempt to establish a voice connection to verify the client's status.

Capabilities are logical trial evaluation points to assess effectiveness. As a consideration, the following set of monitoring and evaluation initiatives have been identified in the Results Chain:

- ❖ Undertake client satisfaction survey
- ❖ Undertake caregiver satisfaction survey
- ❖ Monitor results / impact
- ❖ Monitor impact on workflow processes
- ❖ Assess feasibility of full scale-deployment (business case)

3.2.3 Results Chain Components – Outcomes

Outcomes emanate from the capabilities created and what they enable in application. There are intermediary outcomes and final outcomes; the intermediary outcomes

support the realization of organizational strategic goals and objectives. There is a clear causal relationship between initiatives that create capabilities and the resulting outcomes, which enable the realization of benefits. Capabilities can generate a number of “benefit streams” each of which may require additional supporting initiatives to exploit. Therefore an organization may chose which path(s) to pursue to maximize the value of the investment to the organization.

In the case of this technology pilot, the Results Chain illustrates the relationship between clients being able to alert caregivers of a fall event (PERS), and the ability to detect/prevent potential falls and night time exits/wandering (thru bed and door sensors) to the intermediary outcome of “Decreased Response Time”. Decreased response time, effectively addressing the issue of the “long lie”, can decrease the risk of fall-related injuries, and decrease the risk of wandering outside at night exposing the client to the elements and/or potential falls. Both of these outcomes directly support the attainment of the strategic end goals of Access and Service Sustainability through:

- ❖ Decreased number of Emergency Room visits, and
- ❖ Decreased length of hospitalizations.

This clearly illustrates the causal relationship between change initiatives and outcomes.

In addition, there are other potential benefits that can be realized as a result of the two capabilities this Pilot option enables (see “Expected Outcomes” section in the PERS recommendation described in section 2.1 of chapter 5). Some of these (as indicated in the large blue circle at the bottom right of the Results Chain), as well as those displayed in the other Pilot options include:

- ❖ Increased client and caregiver safety/security and confidence in the client’s ability to self-manage at home.
- ❖ Decreased risk of falling by reducing fear of falling and reduced fear of living alone through enhanced safety and security in the living environment. (The long-term expected result is to extend the time the client(s) can live independently in their own home).
- ❖ Improved health and emotional wellbeing
- ❖ Increased ability to live independently
- ❖ Increased quality of life
- ❖ Decreased incidence of hospitalization
- ❖ Decreased caregiver stress and burnout as a result of increased caregiver peace of mind and reduced requirement to personally monitor the client
- ❖ Increased family comfort level with aging in the home
- ❖ Delayed demand for supportive living
- ❖ Ability for nursing home clients to return to home/community environment

- ❖ Delayed demand for LTC admittance
- ❖ Decreased rate of hospital re-admissions
- ❖ Increased integration of caregivers in care process
- ❖ Decreased Home Care nurse visits
- ❖ Increased productivity and effective use of resources
- ❖ Significant budgetary savings
- ❖ Decreased wait times

These potential benefits, both quantitative and qualitative, are representative of outcomes that can be achieved through the introduction of innovative technologies in the Continuing Care setting identified in the Technology Recommendations chapter, and undertaking the required change initiatives. By applying the Results Chain technique it becomes clear what supporting initiatives are required to create the capabilities and outcomes that support the “Aging in the Right Place” strategies, and the Government of Alberta’s focus on providing accessible, high quality care for Albertans in a sustainable manner.

Identifying the initiatives required to move from the current state to the desired state is usually defined in a workshop setting with key stakeholders who can speak to the gap and define the required change steps. The technologies selected and the benefit streams pursued, whether:

- ❖ Increased Clients’ Social Connectedness
- ❖ Increased Health and Wellness
- ❖ Increased Clients’ Safety, and / or
- ❖ Increased Process Effectiveness and Efficiencies

Through the Pilot trials, the project sponsors can continue to build the evidence-base to drive Telecare technology investment. By enabling independent living for the frail elderly, and through a more efficient use of health, social care and other related resources the benefits that accrue to the healthcare system should fuel the drive for continuous innovation within the system and from suppliers.

It is important to establish at the outset of the Pilot projects an appropriate monitoring and evaluation framework:

- ❖ What are the expected outcomes and measures?
- ❖ What are the current baseline metrics?
- ❖ What are some of the cost assumptions – homecare nursing, facility living, hospitalization costs?
- ❖ What benefits can be attributed to Telecare technologies?
- ❖ What is the profile of the benefits being measured?

- ❖ What is the timeframe for benefits to start accruing - over what time period?
- ❖ How will the benefits be monitored and measured?
- ❖ Who is responsible to deliver the benefits?

The challenge for clinical informatics is to develop multi-perspective evaluations that integrate quantitative and qualitative methods in determining the economic benefits and impacts on clients. By using the Results Chain approach, the evaluation team would have a consistent and structured results-driven framework as a basis for determining such evidence.

3.2.4 Results Chain Components – Risks/Assumptions

All projects contain elements of risk, and all project plans are developed based on a number of assumptions. As with the identification of initiatives, risk identification and risk management is a group activity involving the key stakeholders. The Results Chain methodology provides a good framework for undertaking this exercise by considering each initiative and outcome with the intent of identifying the underlying assumptions and risks.

One of the keys to a successful project is risk management. It is important to clearly assign ownership to each identified risk so that it is managed.

For illustrative purposes, we have identified a number of Pilot project risks on the Results Chain that are represented as a 6-sided polygon. For example, the outcome of “Creating a pilot project to select PERS technology product and vendor” has the following associated risks/assumptions:

- ❖ Organization support is available and the project is adequately resourced
- ❖ A sufficient number of vendors respond with credible solution offers
- ❖ Technology costs are acceptable
- ❖ No privacy showstoppers

Again, this Results Chain is representative and only displays a limited set of components for illustrative purposes. The project team and key stakeholders have to go through the entire exercise to identify and understand the project risks and assumptions.

3.3 Continuing Care Program-Level Representative Results Chain

The project sponsors have indicated the desire to undertake a number of Pilots prior to year-end. The Results Chain methodology can also be used to illustrate a “program-level” implementation clearly showing the linkages and dependencies between individual projects and how they contribute towards the realization of outcomes. Again, this diagram can serve as an important planning tool to facilitate communications, manage risks, and obtain stakeholder support and buy-in.

The following diagram presents a representative program-level-view.

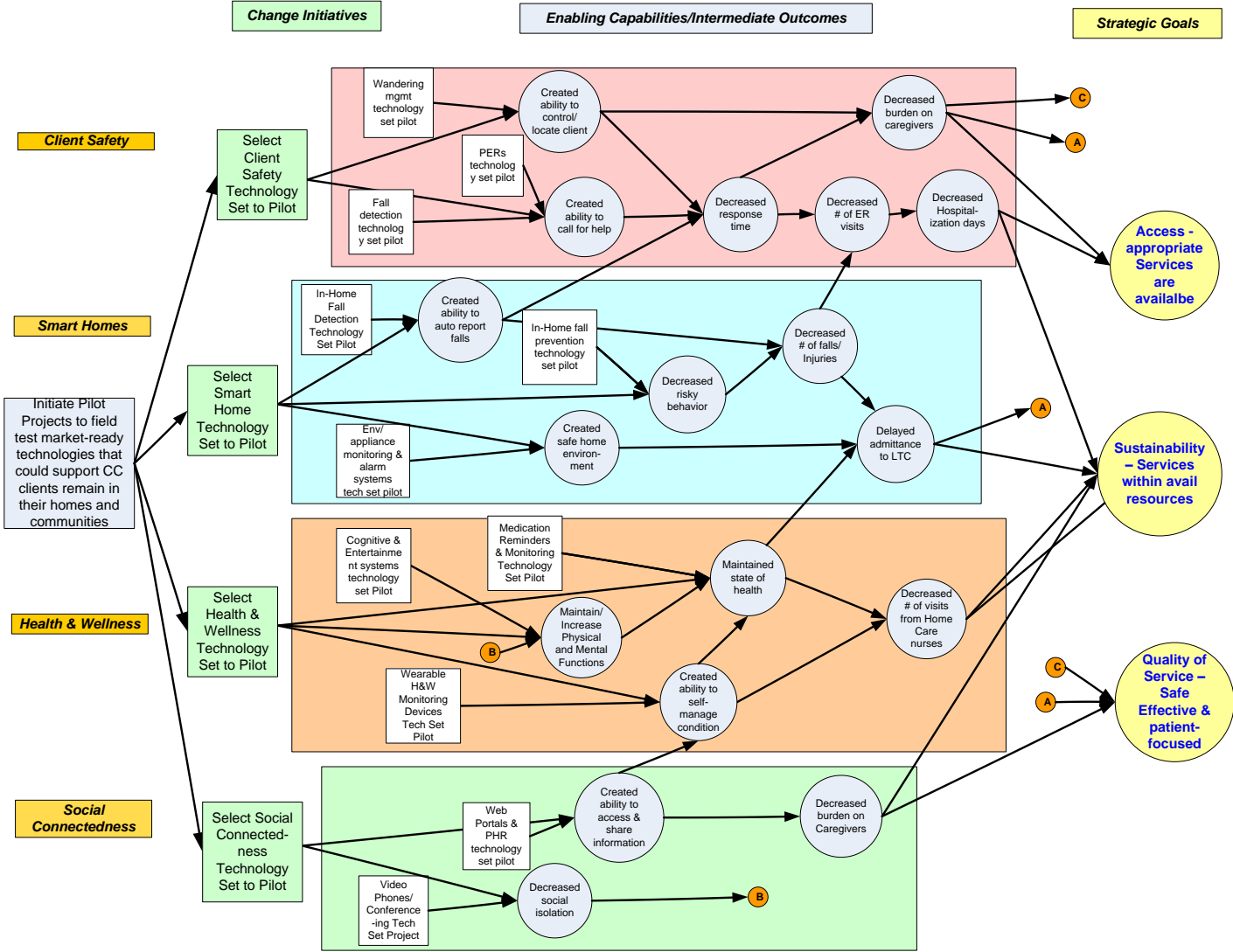


Figure 4: Program Level Representative Results Chain

4. Establishing Pilots

4.1 Purpose of Pilots

The objective of a Continuing Care pilot is to validate the use of one or more “Technology Care Packages” that have been identified as addressing core needs.

When an organization has selected a new technology, product, process or concept, a pilot project best demonstrates the potential in the opportunity. A pilot, or feasibility study, should be viewed as an experiment designed to test a small-scale version of a Care Package, and gather important information prior to a larger-scale deployment.

Pilots are typically used to test new processes and systems. They are used to check the operational details, test assumptions, project feasibility, impacts and effectiveness before time and resources are expended on larger deployments. Indeed, pilots can be thought of as an effective risk management strategy. Conducting a pilot does not guarantee a successful large-scale deployment, but it does increase the likelihood.

A good pilot requires careful planning and monitoring. Since pilots are limited-scale deployments, only limited information from these undertakings can be expected. Therefore pilots need to be well-designed to provide the vital information needed. This makes the need for **careful planning, rigorous testing and information gathering and analysis** based on evidence very important. Hence the most critical aspect of any evaluation process is the planning stage. A lack of planning can severely affect the outcomes of an evaluation effort.

4.2 Pilot Critical Success Factors

The Alberta Healthcare system is currently undergone major change. While there is a drive within Continuing Care to introduce new technologies that can have a positive impact on clients and achieve process improvements that support the overall healthcare goals and objectives, there is also limited capacity for change. AHS IM/IT, in particular, is constrained with their current priorities as a consequence of the recent centralization.

The technology recommendations identified by InnoTraction in chapter 5 have taken these potential “barriers” to change into account, and provided a number of short-term options that are deemed realistic given the current organizational environment.

As mentioned above, the Continuing Care pilots need to be carefully planned undertakings; indeed, planning is likely the single most critical aspect of any trial. At a high-level, there are three (3) critical success factors the project sponsors need to be cognizant of and address when undertaking these trials:

- ❖ **A clear Project Plan for the trial:** The pilot should be structured as a formal project with the proper organizational support and resources approved and in-place. The project plan should include an identified project manager, sponsor, resources, roles, project scope description, and trial duration/timelines. Proper project management tools and techniques should be employed, and a governance process established.

- ❖ **Clearly defined Test Objectives:** Since pilots are limited-scale, time-boxed undertakings, the purpose of the trial and test objectives must be carefully articulated: what are the technology performance expectations; what risks/assumptions need to be tested; what are the organizational (processes, procedures, governance) impacts; technology integration requirements; what are the expected outcomes (user impacts) for clients, caregivers and the healthcare system; what are the measures of success; and what are the success criteria?
- ❖ **Clearly defined Measurement Process:** Define the process for gathering and recording data to measure acceptance, performance expectations and outcomes during the trial. The data gathered should support the needs of the decision-making process. This makes the need for careful planning, rigorous testing and information gathering and analysis based on evidence very important.

Since pilots provide a vehicle for obtaining organizational buy-in and support, they should be positioned for success. Additional CSFs based on experience, as well as what can be derived using the Results Chain methodology suggests a number of additional project specific CSFs.

At the end of the pilot, management should have a good understanding of the appropriateness and the impact of the trialed technologies: is the technology realistic and workable; will it have a positive impact on client outcomes and organizational processes – efficient and effective resource utilization, and support the goals of the “Aging in the Right Place” strategy? A business case should then be updated to incorporate the trial findings and support a go/no go decision for a larger-scale deployment.

Critical Success Factor 6-2: Pilots need to be carefully planned undertakings; indeed, planning is the single most critical aspect of any trial. At a high-level, there are three (3) critical success factors the project sponsors need to address:

- **A clear Project Plan for the trial**
- **Clearly defined Test Objectives**
- **Clearly defined Measurement Process**

It is recognized that all desired outcomes may not be fully realized due to time constraints imposed by a pilot. Typically the evaluation process will continue for a number of years after a successful trial and large-scale deployment to build the empirical database for evaluation. If, however, trial results do not demonstrate the expected outcomes and sufficient justification for larger-scale deployment, it is important to note that these evaluations add to the body of knowledge used to further the understanding of the role of technology in health care.¹¹

¹Vision 2020 The Future of Health Care in Canada, Dec 2008

<http://www.health.alberta.ca/documents/Vision-2020-Phase-1-2008.pdf>

² Health and Wellness Business Plan 2009-12 p 158

<http://www.finance.alberta.ca/publications/budget/budget2009/health.pdf>

³ Alberta Health Services Strategic Direction 2009-2012, June 30, 2009

<http://www.albertahealthservices.ca/files/org-strategic-direction.pdf>

⁴ Ibid p 3

⁵ Continuing Care Strategy Aging in the Right Place <http://www.health.alberta.ca/documents/Continuing-Care-Strategy-2008.pdf>

⁶ Ibid p 2

⁷ Ibid p 4

⁸ Ibid p 10

⁹ The Information Paradox – Realizing the Business Benefits of Information Technology, John Thorpe and DMR's Center for Strategic Leadership McGraw-Hill Ryerson Limited, 1998.

¹⁰ October 2009 Report of the Auditor General of Alberta,

<http://www.oag.ab.ca/files/oag/OAGOct2009report.pdf>

¹¹ Evaluating Information technology in health care: barriers and challenges
<http://www.bmj.com/cgi/content/short/316/7149/1959>